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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,735	07/20/2001	John T. Loh	UTR-103XC1	2435

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EXAMINER

LANKFORD JR, LEON B

ART UNIT	PAPER NUMBER
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1651

DATE MAILED: 07/01/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/909,735

Applicant(s)

LOH ET AL.

Examiner

L Blaine Lankford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-13 and 22-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-13 and 22-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Applicant's arguments filed 4-2-4 have been fully considered but they are not persuasive. The claims remain rejected for the reasons of record.

Applicant argues *Robertson* to rebut the examiner's inherency argument, however the case does not appear to contradict the examiner's rejection. Applicant claims the addition of iron to a nodulating bacteria in culture, however the prior art teaches the same. The prior art teaches growing the same bacteria in the presence of the same substance, i.e. iron, and therefore the result *must be* the same.

Most bacteria nutritionally require iron. The element is crucial for most microbial types of respiration and also is a common enzyme cofactor. It is doubly true that iron is an essential element for nodulating bacteria because it is notoriously old and well known in the art that iron is a requirement for nitrogen fixing. Any essential element must be considered a result effective variable.

The examiner disagrees with applicant's assertion that soil is not a medium for growth of bacteria- applicant has no definition of medium which precludes soil. Soil is a substance in which bacteria can and do grow therefore it could be considered media. Applicant has not specifically argued which order of iron addition differs from the prior art but even if applicant does demonstrate this, it has not been established that the order of addition of the result effective variable, i.e. iron (concentration), has an unobvious effect over the way it is added in the prior art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-13 & 21 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fuhrman et al (as cited by applicant).

Fuhrman et al (Biol Fert Soil 1989 7:108-112) teaches the addition of iron to a Bradyrhizobium inoculant in a variety of concentrations (see for example the Discussions section). The reference is silent on the effects of the iron on what applicant calls CDF, however it would appear that the experiments of Fuhrman would encompass applicant's methods and compositions and thus any effect on CDF, though previously not observed, would have been inherent to the process of Fuhrman. Therefore, the reference anticipates the claim subject matter.

If in fact, the reference does not anticipate the claim subject matter it would still render the invention obvious as it clearly establishes the iron concentration in Bradyrhizobium media is a result effective variable and as such it would be routinely optimized by one of ordinary skill in the art in practicing the invention disclosed by those references to effect growth of the bacterium and nodulating ability. It would have been obvious to optimize iron concentration in the medium even if the specific mechanism, i.e. effect on CDF, was not known as it is notoriously old and well known in the art that nodulating bacteria require iron for the nitrogen fixation process.

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Claims 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuhrman et al in view of Stacey et al(5173424) or Gillette et al(J of Bacteriology May 1996 p2757-2766) (both cited by applicant).

Applicant claims using a liquid medium.

The teachings of Fuhrman are set forth above. Fuhrman does not teach growing the bacteria in a liquid medium. It would have been obvious at the time the invention was made to produce a nodulating inoculant by growing the appropriate bacteria in a liquid medium in the presence of iron because it is notoriously old and well known in the art and taught for example by Gillette and Stacey that nodulating bacteria, i.e. *Bradyrhizobium*, can be grown in a liquid medium.

Iron concentration in *Bradyrhizobium* media is a result effective variable and as such would be routinely optimized by one of ordinary skill in the art in practicing the invention disclosed by those references to effect growth of the bacterium and nodulating ability. It would have been obvious to optimize iron concentration in the medium even if the specific mechanism, i.e. effect on CDF, was not known as it is notoriously old and well known in the art that nodulating bacteria require iron for the nitrogen fixation process.

Accordingly, the claimed invention was prima facie obvious to one of ordinary skill in the art at the time the invention was made especially in the absence of evidence

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to the contrary.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to L Blaine Lankford whose telephone number is 308-2455. The examiner can normally be reached on Mon-Thu 7:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 308-4743. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4242 for regular communications and 703-308-4242 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0196.

L Blaine Lankford
Primary Examiner
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LBL
June 30, 2003